Şcoala Doctorală de Chimie Nr. 368/15.03.2024

TEMATICA PENTRU CONCURSUL DE ADMITERE LA DOCTORAT
sesiunea iulie şi septembrie 2024

Prof. univ. dr. habil. Cecilia ARSENE

1. **Hidrocarburi aromatice policiclice şi derivaţi ai acestora în atmosfera zonei urbane Iaşi, nord-estul României. Atribuirea surselor şi estimarea riscurilor asupra sănătăţii umane (ro)**
   Polycyclic aromatic hydrocarbons (PAHs) and their derivatives in the atmosphere of the Iasi urban area, north-eastern Romania: Sources apportionment and health risk assessments (en)

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2. **Înțelegerea compoziției chimice a fracției de compuși organici volatili în troposfera zonei urbane Iași, nord-estul României. Reactivitate și implicații în formarea ozonului (ro)**
   Understanding the chemical composition of the volatile organic compounds fraction in the troposphere of the Iasi urban area, north-eastern Romania. Reactivity and implications in ozone formation (en)

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1. Seinfeld, J.H., Pandis, S.N., Atmospheric Chemistry and Physics, From Air Pollution to Climate Change, 3rd Edition, John Wiley, New York, **1998**.
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3. Wyne, R.P., Basic concepts of photochemical transformations, in Environmental photochemistry. Part II, Boule, P., Bahnemann, D.W., Robertson, P.K.J. (Eds.), pp. 1-37, Springer Verlag Berlin Heidelberg, **2005**.
4. Duan, C., Liao, H., Ren, Y., The research hotspots and trends of volatile organic compound emissions from anthropogenic and natural sources: A systematic quantitative review, *Environmental Research*, 216, 114386, **2023**, https://doi.org/10.1016/j.envres.2022.114386

3. Contribuții la caracterizarea impurităților genotoxice volatile din produse de larg consum prin tehnici analitice bazate pe spectrometrie de masă. Potențiale implicații asupra pragurilor critice reglementate (ro)
Contributions to the characterization of volatile genotoxic impurities in consumer products by analytical techniques based on mass spectrometry. Potential implications for critical thresholds statements (en)

Bibliografie/References

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2. Langford, V.S., Graves, I., McEwab, M.J., Rapid monitoring of volatile organic compounds: a comparison between gas chromatography/mass spectrometry and selected ion flow tube mass spectrometry, *Rapid Communication in Mass Spectrometry*, 28, 10-18, 28, **2014**, https://doi.org/10.1002/rcm.6747.
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Prof. univ. dr. Elena BÎCU

1. Noi compuşi azaheterociclici penta- şi hexa-atomici. Sinteze şi aplicaţii (ro)
New penta- and hexa-atomic azaheterocyclic compounds. Syntheses and applications (en)

Bibliografie/References

1. Moise, I.M., Bicu, E., Farce, A., Dubois, J., Ghinet, A., Indolizine-phenothiazine hybrids as the first dual inhibitors of tubulin polymerization and farnesyl transferase with synergistic antitumor activity, *Bioorganic Chemistry*, 103, 104184, **2020**.
2. Zubas, A.; Ghinet, A.; Farce, A.; Dubois, J.; Bîcu, E. Phenothiazineand Carbazole-Cyanochalcones as Dual Inhibitors of Tubulin Polymerization and Human Farnesyltransferase. Pharmaceuticals, 16, 888, **2023.**
3. Metwally, N.H., Mohamed, M.S., Ragb, A.E., Design, synthesis, anticancer evaluation, molecular docking and cell cycle analysis of 3-methyl-4,7-dihydropyrazolo [1,5-a]pyrimidine derivatives as potent histonelysine demethylases (KDM) inhibitors and apoptosis inducers, *Bioorganic Chemistry*, 88, 102929, **2019**.

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2. Compuși heterociclici formilați. Sinteze, reactivitate şi aplicaţii biologice (ro)
Formylated heterocyclic compounds. Synthesis, reactivity and biological activities (en)

Bibliografie/References

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Prof. univ. dr. habil. Mihail-Lucian BÎRSĂ

1. Noi flavonoide triciclice cu proprietăţi antimicrobiene (ro)
New tricyclic flavonoids with antimicrobial properties (en)

Bibliografie/References

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Prof. univ. dr. Ionel MANGALAGIU

1. **Heterociclici cu azot de sase atoni cu schelet polifenolic sau analogi: sinteza, structura, aplicatii (ro)**
   Six member ring heterocyclic compounds with polyphenolic skeleton: synthesis, structure, applications (en)
2. **Compuşi azaheterociclici hibrizi sau chimeric cu potenţiale aplicaţii practice (ro)**
   Hybrid or chimeric azaheterocyclic compounds with potential practical applications (en)

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Prof. univ. dr. habil. Romeo-Iulian OLARIU

1. **Studiul degradării atmosferice a unor solvenţi organici curaţi în condiţii controlate (ro)**
   Study of the atmospheric degradation of selected clean organic solvents under controlled conditions(en)

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1. Seinfeld, J. H., Pandis, S. N., Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, Wiley, New York, **1998**.
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2. Studiul formării aerosolilor organici secundari prin oxidarea inițiată de radicalii nitrați a unor compuși fenolici în condiții de atmosferă controlată: Implicații privind mecanismele de nitrare atmosferică și formarea carbonului brun (ro)
Study of the secondary organic aerosols formation from nitrate radical-initiated oxidation of some phenolic compounds under controlled atmosphere conditions: Implications regarding atmospheric nitration mechanisms and brown carbon formation (en)

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1. Wayne, R.P, Barnes, I., Biggs, P., Burrows, J.P., Canosa-Mas, C.E., Hjorth, J., Le Bras, G., Moortgat, G.K., Perner, D., Poulet, G., Restelli, G., Sidebottom, H., The nitrate radical: Physics, chemistry, and the atmosphere, Atmospheric Environment. Part A. General Topics, 25, (1), 1-203, **1991**.
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3. Studiul contributiei amoniacului in formarea aerosolilor organici secundari de la degradarea oxidativa a unor hidrocarburi volatile biogene in conditii atmosferice controlate (ro)
The study of the contribution of ammonia in the formation of secondary organic aerosols from the oxidative degradation of some biogenic volatile hydrocarbons under atmospheric controlled conditions (en)

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Prof. univ. dr. Aurel PUI

1. Nanostructuri oxidice avansate pentru fotocataliza si producerea de energie verde (ro)
Advanced oxide nanostructures for catalysis and green energy production (en)

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2. Compusi coordinativi cu baze Schiff (ro)
Coordination compounds with Schiff bases (en)

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Conf. univ. dr. habil. Gheorghiță ZBANCIOC

1. **Sinteza derivaților azaheterociclici de șase membri prin metode convenționale și neconvenționale (ro)**
   Synthesis of six-membered azaheterocyclic derivatives by conventional and unconventional methods (en)

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4. Diaconu, D.; Amariucai-Mantu, D.; Mangalagiu, V.; Antoci, V.; Zbancioc, G.; Mangalagiu, I.I., Ultrasound assisted synthesis of hybrid quinoline-imidazole derivatives: a green synthetic approach, *RSC Advances*, *11*, 38297-38301, 2021. https://doi.org/10.1039/D1RA07484A
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DIRECTOR ŞCOALĂ DOCTORALĂ,
Prof. univ. dr. habil. Cecilia ARSENE